

**ALL FIBER POLARIZATION MODE DISPERSION COMPENSATOR****ABSTRACT OF THE DISCLOSURE**

A polarization mode dispersion compensator corrects polarization mode dispersion in an optical signal having a fast polarization mode component, a slow polarization mode component and a time differential between the components. The compensator includes a phase shifter and a variable delay section. An input of the phase shifter is coupled to an optical device that provides an optical signal that exhibits polarization mode dispersion. The phase shifter functions to rotate the optical signal principal states of polarization to a desired orientation. The phase shifter engages a segment of an optical fiber that is coated with a radiation cured coatings. The coating composition is selected so that in response to a preload comprising the application of a stress of about 80 MPa to said coating at about 80°C and after a stress-relaxation period of at least about 1 hour, at about 80°C, a residual stress exhibited by said coating comprises at least about 60 MPa , and the coating is capable of transmitting a transverse stress to the fiber to controllably change the birefringence of the fiber.

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